World Bank Policy Research

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The making of the East Asia miracle

The East Asia miracle—achieving high growth with equity—is due to a combination of fundamentally sound development policies, tailored interventions, and an unusually rapid accumulation of physical and human capital. Making the miracle was no simple matter, as the World Bank's policy research report *The East Asian Miracle: Economic Growth and Public Policy* makes clear. Numerous ingredients went into the recipes for success in Hong Kong, Indonesia, Japan, Malaysia, the Republic of Korea, Singapore, Taiwan (China), and Thailand. Nonetheless, the market-oriented aspects of the experience of these eight high-performing East Asian economies (HPAEs) can be recommended with few reservations. Whether interventions should be attempted everywhere is another matter.

East Asia has a remarkable record of high and sustained economic growth. From 1965 to 1990 the 23 economies of East Asia grew faster than all other regions of the world (figure 1). Most of this achievement is attributable to seemingly miraculous growth in the eight economies studied.

The HPAEs have also been unusually successful at sharing the fruits of growth. Figure 2 shows the relationship between the growth of gross domestic product (GDP) per capita between 1965 and 1990 and changes in the Gini coefficient, a statistical measure of the inequality of income distribution. The HPAEs enjoyed much higher per capita income growth at the same time that income distribution improved as much as or more than it did in other developing economies, with the exception of Korea and Taiwan (China), which began with highly equal income distributions. The HPAEs are the only economies that have high growth *and* declining inequality. Moreover, some of the fastest-growing East Asian economies—such as Japan, Hong Kong, and Singapore—are the most equal.

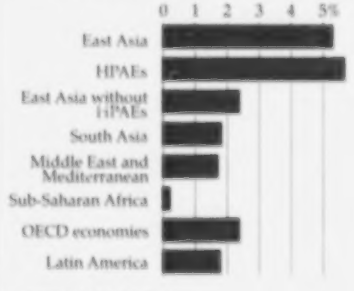
As a result of the rapid, shared growth, human welfare has improved dramatically. Life expectancy in the developing HPAEs increased from 56 years in 1960 to 71 years in 1990. In the HPAEs, the proportion of people living in absolute poverty, lacking such basic necessities as clean water, food, and shelter, dropped—from 58 percent in 1960 to 17 percent in 1990 in Indonesia, for example, and from 37 percent to less than 5 percent in Malaysia during the same period. Absolute poverty declined in other developing economies, but much less steeply. A host of other social and economic indicators, from education to appliance ownership, have also improved rapidly in the HPAEs and are now at levels that sometimes surpass those in industrial economies.

Getting the basics right

What caused East Asia's success? In large measure the HPAEs achieved high growth by getting the basics right. Private domestic investment and rapidly growing human capital were the principal engines of growth. High levels of domestic financial savings sustained the HPAEs' high investment levels. Agriculture, while declining in relative importance, experienced rapid growth and productivity

Figure 1 Strong growth, thanks to HPAEs

Average growth of GNP per capita, 1965–90



Source: World Bank data.

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improvement. Population growth rates declined more rapidly in the HPAEs than in other parts of the developing world. And some of these economies also got a head start because they had a better-educated labor force and a more effective system of public administration.

Fundamentally sound development policy was a major ingredient in achieving rapid growth. Macroeconomic management was unusually good and macroeconomic performance unusually stable, providing the essential framework for private investment. Policies to increase the integrity of the banking system and to make it more accessible to nontraditional savers raised the levels of financial savings. Education policies that focused on primary and secondary schools generated rapid increases in labor force skills. Agricultural policies stressed productivity and did not tax the rural economy excessively.

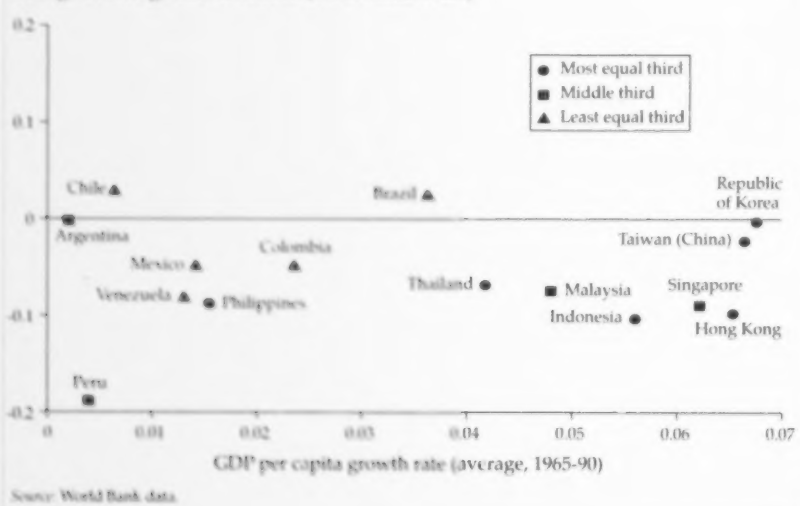
Government intervention

But these fundamental policies do not tell the entire story. In most of these economies the government intervened—systematically and through multiple channels—to foster development, and in some cases the development of specific industries. Policy interventions took many forms. Policies to bolster savings, build strong financial markets, and promote investment with equity included keeping deposit rates low and maintaining ceilings on borrowing rates to increase profits and retained earnings, establishing and financially supporting government banks, and sharing information widely between public and private sectors. Policies to bolster industry included targeting and subsidizing credit to selected industries, protecting domestic import substitutes, supporting declining industries, and establishing firm- and industry-specific export targets.

In assessing whether selective interventions were good for growth, the researchers of *The East Asian Miracle* conclude that in a few economies, mainly in northeast Asia, government interventions sometimes resulted in higher and more evenly distributed growth than otherwise would have occurred. The prerequisites for success were so rigorous, however, that policymakers seeking to follow similar paths in other developing economies have often met with failure. First, governments in northeast Asia developed institutional mechanisms that allowed them to establish clear performance criteria for selective interventions and to monitor performance. Intervention has occurred in an unusually disciplined and performance-based manner. Second, the costs of interventions, both explicit and implicit, did not become excessive. When fiscal costs threatened the macroeconomic stability of Korea and Malaysia during their heavy and chemical industries drives, governments pulled back. In Japan the Ministry of Finance acted as a check on the ability of the Ministry of International Trade and Industry to carry out subsidy policies, and in Indonesia and Thailand balanced budget laws and legislative procedures constrained the scope for subsidies. Indeed, when selective interventions have threatened macroeconomic stability, HPAE governments have consistently come down on the side of prudent macroeconomic management. Price distortions arising from selective interventions were also less extreme than in many developing economies.

In the newly industrializing economies (NIEs) of southeast Asia—Indonesia, Malaysia, and Thailand—government interventions played a much less prominent and frequently less constructive role in economic success, while adherence to policy fundamentals remained important. These economies' capacity to administer and implement specific interventions may have been less than in northeast Asia. Their rapid growth has occurred in a very different interna-

Figure 2 Change in inequity and the GDP per capita growth rate



Source: World Bank data.

tional economic environment from the one that Japan, Korea, and Taiwan (China) encountered during their most rapid growth. Thus the challenge is not only to try to understand which specific policies may have contributed to growth, but to understand the institutional and economic circumstances that made them viable. The experience of these NIEs, whose initial conditions parallel those of many developing economies today, may prove to have more relevance outside the region than that of northeast Asia.

Investment, human capital, and productivity

Aside from the ability to sustain rapid growth with fairly equal income distributions, the HPAEs also differ from other developing economies in three factors traditionally associated with economic growth. Elevated rates of investment, exceeding 20 percent of GDP on average between 1960 and 1990, including remarkably high rates of private investment, combined with rising endowments of human capital because of universal basic education, tell a large part of the growth story. These factors "account" for roughly two-thirds of the growth in the HPAEs. The remainder is attributable to productivity growth. In fact, productivity growth in the HPAEs exceeds that of most other developing and industrial economies. This superior performance comes from the combination of success at allocating capital to high-yielding investments and success at catching up technologically to the industrial economies.

Public policies and growth

What was the role of public policy in helping the HPAEs to rapidly accumulate human and physical capital and to allocate those resources to high-yielding investments?

To attempt to answer this question, *The East Asian Miracle* develops a framework that links rapid growth to the attainment of three functions—accumulation, efficient allocation, and rapid technological catch-up.

Policy choices are classified into two broad groups, fundamentals and selective interventions. Among the most important fundamental policies are macroeconomic stability, high investments in human capital, stable and secure financial systems, limited price distortions,

Intervention has occurred in an unusually disciplined manner

and openness to foreign technology. Selective interventions include mild financial repression, directed credit, selective industrial promotion, and export-push trade policies.

To succeed, interventions intended to guide resource allocations must address failures in the working of markets. If not, markets can perform the allocation function more efficiently. The researchers focus on a class of economic problems—coordination failures—that can lead markets to fail, especially in early stages of development. They interpret some of the interventionist policies in East Asia in terms of responses to these coordination problems—responses that emphasized cooperative behavior among private firms and clear performance-based standards of success.

Some HPAEs have gone a step further, creating "contests" that combined competition with the benefits of cooperation, among firms and between government and the private sector. The key feature of each contest is that the government distributes rewards such as access to credit or foreign exchange, based on performance, which the government and competing firms monitor.

The HPAE governments did not set out with the singular goal of achieving the functions of growth. Rather, they used multiple, shifting policy instruments in pursuit of more straightforward economic objectives such as macroeconomic stability, rapid export growth, and high savings. Pragmatic flexibility in the pursuit of such objectives—the capacity and willingness to change policies—is as much a hallmark of the HPAEs as any single policy instrument. This is well illustrated by the variety of ways in which the HPAEs achieved two important objectives: macroeconomic stability and rapid export growth.

Financial markets and investment policy

HPAE governments attacked the problems of missing capital markets (and imperfect banking systems characterized by asymmetric information) through a three-pronged approach. Many HPAEs created specialized development banks that were important sources of long-term financing for investment at early stages of development. And during selected periods, some HPAEs used financial repression to aid the banking system or to bolster ailing industries. They worked to create the institutional foundations of bond and equity markets. Finally, with the recognition that most investment would come from retained earnings, HPAE governments encouraged the retention and reinvestment of corporate earnings.

East Asian governments created a wide range of financial institutions to fill perceived gaps in the types of credit provided by private entities. They met the need for long-term credit for industry by creating development banks. Most of the governments have also created specialized institutions that provide credit to agriculture and small firms.

Industrial development banks have been substantial long-term lenders in Indonesia, Japan, Korea, and Taiwan (China), but not in the other HPAEs. And in all the other HPAEs except Hong Kong and Singapore, development finance institutions helped expand financial markets.

Many other developing economies have also attempted to remedy the perceived failure in long-term capital markets. Nearly all have been unsuccessful in creating development banks.

Development banks have performed relatively better in the HPAEs, especially those banks in the northern-tier economies concentrating on industrial finance. But failures have occurred, as in the 1950s, when insolvent development banks were closed in Japan and Thailand. Likewise, development banks lending to small and medium-size enterprises in Indonesia and Malaysia have reported difficulties because of growing arrears. On the positive side, successful development banks in East Asia, particularly in Japan and Singapore, have applied commercial criteria in selecting and monitoring projects and firms, even within the constraints set by government priority activities, and they have contributed to the region's financial deepening.

Increasing the attractiveness of private investment

HPAE governments have encouraged private investment with a wide array of mechanisms. These included low capital goods prices, subsidized interest rates for corporate investment, and limited risk for private investors.

Tax, tariff, and exchange rate policies, which kept the relative price of investment goods in the HPAEs below that in other low- and middle-income economies, undoubtedly contributed to growth. Since the same volume of nominal investment bought more real capital goods in these economies, output was increased and returns on nominal investments were higher.

Governments of HPAEs have encouraged private investment with a wide array of mechanisms

Most HPAE governments have at one time or another held interest rates below market-clearing levels while nonetheless achieving high and growing rates of aggregate and financial savings and output growth. The HPAEs have not, however, used financial repression as a consistent and deliberate policy over time to secure resources to finance the budget or resource transfers to selected economic sectors. Financial repression has been used in selected periods, however, usually after an external shock, as in Korea. Korea averted a recessionary crisis in the early 1980s by sharply lowering real interest rates on deposits and loans—thus engineering a massive transfer of wealth from savers (mostly households) to borrowers (mostly firms). Because strict foreign exchange controls prevented households from converting their savings, households temporarily accepted negative real interest rates. The intervention lasted only from 1980 to 1982, when real interest rates became positive again.

Equity and bond markets

The HPAEs' equity and bond markets were not responsible for the Asian miracle. The HPAEs nevertheless recognize the value of these markets.

The Asian stock market boom is a relatively recent phenomenon, however, and its takeoff in the late 1980s suggests that it is a result rather than a cause of East Asia's rapid growth.

To sum up

The HPAEs all benefited from doing the fundamentals well—encouraging macroeconomic stability, basic education, sound and solvent financial institutions, secure property rights and complementary public investments in infrastructure, and low relative prices of investment goods. Efforts to improve the institutional framework for capital market development came later in the process and were not responsible for the takeoff. In some cases (as in Japan), well-functioning development banks were a positive but not a determining factor.

Drawn from World Bank, *The East Asian Miracle: Economic Growth and Public Policy* (New York: Oxford University Press, 1993). Prepared by a team led by John Page and comprising Nancy Birdsall, Ed Campos, W. Max Corden, Chang-Shik Kim, Howard Pack, Richard Sabot, Joseph Stiglitz, and Marilou Uy.

New Research

The research projects described here have been approved by the Research Committee and are funded by the Bank's Research Support Budget (RSB). Bank units contribute their staff time to these projects, and RSB funding complements this by providing for such expenses as consultants, data collection, and travel. For information on funding to prepare research proposals approved, see page 11.

For information about research projects listed here, contact the researchers at the Bank's main address.

Research Starts

Revision of the LSMS Household-based Agricultural Activities Survey Module
Margaret Grosh and Paul Glewwe
Policy Research Department, Poverty and Human Resources Division
Ref. no. 678-21

The Living Standards Measurement Study (LSMS) household survey, first conducted in Côte d'Ivoire in 1985, represents a departure from the "standard" household surveys. One innovation is its collection of comprehensive welfare information, through measures of expenditure and income.

Agriculture is incorporated in both income and expenditure measures—on the expenditure side through the value of home-produced food and on the income side through agricultural production. It is thus one of the longest modules in the survey questionnaire, and it accounts for a significant share of the survey's cost. But it contributes to the important research area of agriculture and the poor.

This research project will assess how well the agriculture module works and how it might be improved and its cost reduced. Experience with the module suggests that there is room for improvement. First, although information from the agriculture module appears to be used as often as that from other parts of the questionnaire, agricultural topics are analyzed less often than other topics covered in the survey. This suggests that only certain parts of the module are used. Second, when shortening the questionnaire, researchers have often chosen to omit or abridge the agriculture module. And third, some have criticized the module's design—for example, because it uses the calendar year rather than the agricultural cycle as its reporting period.

The study will review the body of analysis produced from agricultural modules to identify the variables (questions) that have been used extensively, those that could be eliminated, and the most useful alternate formulations. The results should help refine the module so that it leads to the collection of more useful data. And if the cost of the module can be cut significantly, it might be included in more surveys. The research, although clearly focused on the LSMS survey, should produce lessons for other household-based agricultural surveys as well.
RSB support: $26,700
Staff weeks: 2

Regionalism and South Asia's Trade
Gobind T. Nankani
South Asia, Office of the Regional Vice President
Ref. no. 678-22

South Asian countries have traded little, with each other or with the rest of the world. Instead, they have pursued inward-oriented development strategies, relying on external trade barriers to promote domestic industry. In recent years, however, several have begun liberalizing their trade, motivated in part by hopes raised by the Uruguay Round of the GATT negotiations.

But as these countries move toward integration with the world economy, the international environment is becoming less receptive. The slower growth and increased competition in South Asia's traditional markets, the risk of increased protection in industrial countries, and the growing interest in bilateral and regional trade arrangements threaten the success of the region's agricultural, industrial, and trade reform efforts. To minimize the effect of the adverse international environment, South Asia needs to identify new markets in which to realize its comparative advantages in trade.

This research project will analyze the potential benefits to each South Asian country of some form of regional integration in the event that the GATT discussions fail. Potential trade arrangements that it will investigate are bilateral arrangements with other South Asian countries, multilateral relations with the entire South Asian region, arrangements with other Asian regions, and arrangements with industrial countries.

The research will also analyze the implications of the reform efforts in India—the region's largest country—for the trade and industrial development policies of the other countries in the region. Both of the study's analyses will be based on an assessment of the actions' welfare effects, which depend largely on how much trade is created and how much diverted.
RSB support: $38,730
Staff weeks: 15

Rural Poverty and Agriculture in Mexico
John Nash
Policy Research Department,
Trade Policy Division
Ref. no. 678-23

This project will seek to provide a descriptive characterization of poor farmers in Mexico. With 63 percent of all extremely poor households in Mexico depending on agriculture as their primary source of income, a focus on agriculture should also shed light on rural poverty.

The project will describe the rural poor in terms of their education, health care, and other demographic characteristics. It will identify their characteristics as producers—what crops they produce, whether they are more or less specialized than better-off farmers, how much government support they receive, and what role such factors as land quality, tenure arrangements, and the use of purchased inputs play in their production decisions. Most important, the study will identify poor farmers' most binding constraints. Using the results of this exercise, the study will compare the characteristics of poor farmers with those of the urban poor and compare the constraints of poor farmers with those of farmers of all income levels.

The study will lay the groundwork for a second research project, which will analyze the effect of the characteristics and constraints of poor farmers on their responsiveness to changing economic conditions—such as structural reforms—and to the adoption of the North American Free Trade Agreement. Increasingly liberal policies are likely to create a much more dynamic environment in which quick responses become vital.
RSB support: $39,500
Staff weeks: 4

Reforms and Productivity in Chinese Enterprises II
Inderjit J. Singh
Policy Research Department,
Transition and Macro-Adjustment Division
Ref. no. 678-24

This project will address issues relating to industrial restructuring and changes in enterprise ownership in China during its economic transition. The research will draw on data from several surveys of firms with ownership of all types, including a survey of large and medium-size enterprises. These data will allow an investigation of three areas of China's enterprise reform.

First, the study will look at patterns and determinants of the distribution of industrial production by firm size. Since 1978, the share of industrial output from state-owned firms has declined from nearly 80 percent to less than 50 percent, yet the share of output from large and medium-size firms has remained fairly stable, at 40 to 44 percent. The study will investigate whether the ability of large and medium-size firms to maintain their share in output can be explained by increased efficiency, including the realization of scale economies in certain industries, preferential policies, barriers to entry, and other factors.

Second, the study will examine the growth of the nonstate sector and its interaction with the state sector. For enterprises of various ownership types in different industries, it will look at the relations between emerging market structures, competition, and export patterns; patterns of technical innovation and technology transfer; and profitability and the allocation of bank and enterprise investment resources, including interenterprise loans.

The process of privatization has accelerated rapidly during the past two years in Chinese state industry. Forms of privatization include outright sale to both domestic and foreign buyers, the formation of joint ventures, the creation of locally owned joint-stock companies, and initial public offerings on domestic and foreign stock exchanges. The last part of the study will attempt to determine whether state enterprises that have become wholly or partially privatized have characteristics that make them "ripe" for changes in ownership, such as size, branch of industry, location, profitability, and other performance criteria.
RSB support: $40,000
Staff weeks: 10

Enterprise Transformation in Poland
Brian Pinto
International Finance Corporation,
Economics Department
Ref. no. 678-25

Enterprise reform in the newly emerging market economies of Central and Eastern Europe has been the subject of much policy discussion. But there has been little systematic empirical research to underpin policy in this area. This project is intended to contribute empirical evidence on enterprise behavior under reform. It will extend earlier work that collected data on 75 large, state-owned manufacturing enterprises in Poland to investigate how they were responding to the new market-oriented system introduced in 1990 by the Economic Transformation Program.

These enterprises were found to be much more responsive to the hard budgets and clean relative prices under the Economic Transformation Program than might

have been expected given the standard view of the state sector as inert and failing. This study will further analyze the data set, which spans June 1989 to June 1992, to shed light on the microeconomic adjustment supporting the recovery that began showing up in aggregate industry statistics in 1992.

The study will conduct rigorous econometric analysis of such issues as wage-setting behavior, the changing role of banks in restructuring, and the choice between rapid privatization and restructuring before privatization. It will also investigate how hard budgets affect enterprises even with no change in their governance or in managerial incentives. The study's findings are expected to be applicable not only to Poland but to other reforming economies in the region.

RSB support: $25,000
Staff weeks: 10

Patterns of Growth: Further Work on National Policies and Long-Run Growth
William Easterly and Ross Levine
Policy Research Department, Transition and Macro-Adjustment Division
Ref. no. 678-26

This project is concerned with how countries raise their standards of living. It has two broad objectives. First, it will continue work on a data base compiled in earlier research that looked at the link between national policies and growth. It will prepare the data for dissemination to the research and policymaking community and collect additional data on military spending, public sector deficits, barriers to trade and capital flows, GDP per worker by sector and region within countries, and social indicators.

Second, using the expanded data base, the project will look at how social indicators and disaggregated GDP measures respond to such policy indicators as public infrastructure investment and financial depth. This research is intended to overcome the shortcoming of much recent empirical work on growth that focuses on per capita GDP as the only measure of welfare. The research will identify the macroeconomic policy indicators that tend to be associated with improvements in social indicators. And it will look at the growth response by sector and province, because policies are likely to affect different sectors and areas differently. Where there are large differences in performance among sectors and provinces, or between growth in GDP and improvement in social welfare, the research will seek an explanation.

The research will look, too, at differences in growth among continents, and it will test explanations for these differences. It will investigate how restrictions on trade and capital affect growth patterns. Finally, the research will look at the relation between different sources of growth (labor, human capital, physical capital, and technological progress) and national policy indicators.

RSB support: $39,500
Staff weeks: 20

Secondary Education in the Newly Industrializing Countries of Asia
Donald Holsinger and Omporn Regel
Education and Social Policy Department
Ref. no. 678-27

An increase in the education level of a country's population has come to be linked with economic growth and reduction in poverty. Cited as proof is the experience of Japan and other East Asian countries, which are perceived as having achieved impressive rates of growth through human resource policies while other regions were experiencing lower rates of growth and less equitable distribution of income.

In recent years several East Asian countries that have had slightly lower historical rates of growth have joined the ranks of newly industrializing countries. These countries have adopted education policies that, in different ways, have vastly expanded coverage of secondary education. This study will compare patterns of development in secondary education in three Southeast Asian countries—Malaysia, the Republic of Korea, and Thailand—to shed light on the relation between human capital accumulation and economic and social development.

The research will focus on four key policy issues. First, it will examine how national economic objectives shape the patterns of growth in secondary education, and how expansion in enrollment affects equity in the distribution of opportunities in secondary education and the diversification of curriculum. Second, it will examine the effects of structures and patterns of delivery on the internal efficiency of institutions. Third, it will look at how different patterns of development affect external efficiency and the contribution of secondary education to the labor market. And fourth, it will assess the quality of secondary education.

The study will be conducted through a general statistical review of the development of secondary education in Asia in 1950–90, a historical overview of secondary education in Korea, Malaysia, and Thailand, and a comparative analysis of the effects of different patterns in and strategies for developing secondary education, and the implications for the future development of secondary education. The study will also examine policy options for the region to

DEVELOPMENT BRIEF
Number 21 The World Bank October 1993

Building the institutional basis for shared growth

East Asia's success stems partly from the policies adopted and partly from the institutional mechanisms created to implement them

While leaders of the high-performing Asian economies (HPAEs) have tended to be either authoritarian or paternalistic, they have also been willing to grant a voice and genuine authority to technocratic elites and to key leaders of the private sector. Unlike authoritarian leaders in many other economies, leaders in the HPAEs realized that economic development requires cooperation.

The principle of shared growth

To establish their legitimacy and win popular support, East Asian leaders established the principle of shared growth, promising that, as the economy expanded, all groups would benefit. But sharing growth raised complex coordination problems.* First, leaders had to convince economic elites to support pro-growth policies. Then, to win the cooperation of the middle class and the poor, the leaders had to show them that they would indeed benefit from future growth.

Explicit mechanisms were used to demonstrate the intent that all would have a share of future wealth. Korea and Taiwan (China) carried out comprehensive land reform programs; Indonesia used rice and fertilizer price policies to raise rural incomes; Malaysia introduced explicit wealth-sharing programs to improve the lot of ethnic Malays relative to the better-off ethnic Chinese; Hong Kong and Singapore undertook massive public housing programs; and in several economies, governments assisted workers' cooperatives and established programs to encourage small and medium-size enterprises.

Private sector groups are invited to help shape and implement policies

These wealth-sharing measures have differed from the typical redistributive approach of most developing economies. Rather than granting direct income transfers or subsidizing specific commodities (for example, food or fuel), HPAE governments improved public infrastructure and housing, initiated land reform, and promoted labor-intensive sectors.

Competition and cooperation

To tackle coordination problems, leaders needed institutions and mechanisms to reassure competing groups that each would benefit from growth. The first step was to recruit a competent and relatively honest technocratic cadre and insulate it from day-to-day political interference.

Leaders in the HPAEs also built a business-friendly environment. A major element of that environment was a legal and regulatory structure that was generally hospitable to private investment. Beyond this, the HPAEs have with varying degrees of success enhanced communication between business and government. Japan, Korea, Malaysia, and Singapore have established forums, or deliberation councils, in which private sector groups are invited to help shape and implement the government policies relevant to their interests. In contrast to lobbying, where rules are murky and groups seek secret advantage over one another, the deliberation councils promote a level playing field by facilitating the transmission of information to the private sector in a democratic way. In Japan, the councils are intended to make allocation rules clear to all participants.

Universal education

Education is arguably the most important of the HPAEs' wealth-sharing, opportunity-creating mechanisms. The goals of universal basic education and wide access to secondary and higher education contributed substantially to opportunities for upward mobility. This

*For more details, see World Bank, *The East Asian Miracle* (New York: Oxford University Press, 1993), chapter 4.

mobility makes the general population more accepting of the market-oriented policies needed to foster growth.

Equitable land holding and land reform

Theory and empirical evidence suggest that widespread ownership of land not only improves equity but also improves land productivity. All the HPAEs with substantial agrarian sectors have widespread land holding, resulting from either traditional ownership patterns (Indonesia and Thailand) or land reform (Japan, Korea, and Taiwan, China). Malaysia, with a relatively small population and ample land, is an exception; there, corporate-owned plantations have dominated agricultural output since the colonial era. Hong Kong and Singapore have almost no agricultural sector.

Korea and Taiwan (China) began land reform under broadly similar circumstances. In both cases, authoritarian governments facing a communist threat were dependent on the assistance of the United States, whose advisers urged them to adopt more egalitarian land holding. In Taiwan (China) the government seized land from the landlords, compensating them with shares in state enterprises. It then sold the land to the tillers at favorable credit terms and favorable prices. The government then helped the tillers upgrade production for domestic and export markets. The program worked economically and politically. Land reform helped Taiwan (China) achieve one of the world's most equitable income distributions.

Enterprises: Small and medium-size are beautiful

Just as numerous small land holdings improved equity and efficiency, the HPAEs benefited from a profusion of small and medium-size enterprises (SMEs). The large number of SMEs generally reflected market forces rather than government intervention. But several of these economies supported SMEs with preferential credits and specific support services. Rapid growth of labor-intensive manufacturing in these firms absorbed large numbers of workers, reducing unemployment and attracting rural labor. As firms shifted to more sophisticated production, efficiency rose and workers' real incomes increased.

Support for SMEs has been most explicit and successful in Taiwan (China). There, SMEs comprise at least 90% of enterprises in each sector. Other HPAEs have also encouraged SME industries. Japan has directed enormous financial resources toward developing small and medium-size enterprises. In 1989, SMEs accounted for about 52% of both manufacturing value added and sales in that country.

Better housing

Two HPAEs, Hong Kong and Singapore, intervened heavily in housing markets. By providing low-cost housing for the majority of residents, both programs have helped to decrease inequality and minimize social unrest, thus providing the long-term stability attractive to investors. Moreover, the massive construction effort created jobs when both economies faced high unemployment; subsequently, the wide availability of low-cost housing for workers helped to hold down wage demands, subsidizing labor-intensive manufacturing.

Building a reputable civil service

While insulation of the technocracy may be necessary, it is hardly sufficient in the long term. To sustain growth, a bureaucracy must have the competence to formulate effective policies and the integrity to implement them fairly. The more policymakers attempt to fine-tune the economy, the greater the need for competence and honesty. Among the HPAEs, Japan, Korea, Singapore, and Taiwan (China) have been successful in building competent bureaucracies. The Southeast Asian newly industrializing economies have gradually introduced measures to upgrade theirs, with Malaysia in the forefront of the process. Corruption and bribery, while not absent, have been less frequent and smaller in these HPAEs than in other low- and middle-income economies.

The most successful bureaucracies have not relied on work ethic alone. HPAE bureaucracies have employed several mechanisms to increase the appeal of a public service career, thereby heightening competition and improving the pool of applicants. The overall principles of these mechanisms, readily applicable to any society, are:

- Highly competitive, merit-based recruitment and promotion.
- Compensation (including pay, perks, and prestige) that is competitive with the private sector.
- Ample rewards to those who make it to the top.

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DEVELOPMENT BRIEF
Number 22 The World Bank October 1993

Early education push pays off for East Asia

An early education push helped the region create a broad, technically inclined human capital base well-suited to rapid economic development

Asia's education strategy was to focus spending on the lower grades: first by providing universal primary education, later by increasing the availability of secondary education. Rapid demographic transitions facilitated these efforts by slowing the growth in the number of school-age children and in some cases causing an absolute decline. Declining fertility and rapid economic growth meant that, even when education investment as a share of GDP remained constant, more resources were available per child in East Asian regions than in other developing regions. And success in education was aided by high income growth and more equal income distribution.*

Limited public funding of post-secondary education focused on technical skills, and some of East Asia's eight high-performing economies, or HPAEs—Hong Kong, Indonesia, Japan, Malaysia, the Republic of Korea, Singapore, Taiwan (China), and Thailand—imported educational services on a large scale, particularly for disciplines requiring high skills.

The allocation of public resources to basic education was the major determining factor in East Asia's successful educational strategies (see the table).

*For more details, see World Bank, *The East Asian Miracle* (New York: Oxford University Press, 1993), chapter 5.

Policy choices

Higher shares of national income devoted to education cannot fully explain the larger accumulation of human capital in the HPAEs. In both 1960 and 1989, public expenditure on education as a percentage of GNP was not much higher in East Asia than elsewhere. For the past 30 years, the governments of East Asia markedly increased the share of national output they invested in formal education. But so did governments in other developing regions. In 1989 the share in Africa, 4.1%, was higher than the East Asian share, 3.7%, which barely exceeded the average share for all developing economies, 3.6%.

What East Asia has done differently is to allocate a consistently higher share of public expenditure for education to primary schooling than elsewhere. Korea and Venezuela provide an extreme example. In 1985 Venezuela allocated 43% of its education budget to higher education; by contrast, in the same year Korea allocated only 10% of its budget to higher education. Public expenditure on education as a percentage of GNP was actually higher in Venezuela (4.3) than in Korea (3.0). After the share going to higher education is subtracted,

Where education budgets went in 1985

Economy	*Public expenditure on education as a percentage of GNP*	*Public expenditure on basic education as a percentage of GNP*	*Percentage of education budget allocated to higher education*	*Percentage of education budget allocated to basic education*
Hong Kong	2.8	1.9	25.1	69.3
Indonesia[a]	2.3	2.0	9.0	89.0
Korea, Republic of	3.0	2.5	10.3	83.9
Malaysia	7.9	5.9	14.6	74.9
Singapore	5.0	3.2	30.7	64.6
Thailand	3.2	2.6	12.0	81.3
Venezuela	4.3	1.3	43.4	31.0

a. Other data sources indicate that Indonesia's public expenditure on education as a share of GDP was 3.3% in 1984–85 and 4.3% in 1985–86; the share of the education budget allocated to basic education was 81% in 1984–85 and 80% in 1985–86.

Note: Not all row percentages add to 100 since three other categories—pre-primary, other types, and not distributed—are not included.

Source: Column 1, United Nations Development Programme, *Human Development Report 1991* (New York: Oxford University Press, 1991); columns 2 and 3, United Nations Educational, Scientific, and Cultural Organization, *Statistical Yearbook* (Paris, 1989).

however, public spending on basic education as a percentage of GNP was much higher in Korea (2.5) than in Venezuela (1.3).

The share of public funds allocated to tertiary education in East Asia has tended to be low, averaging roughly 15% during the past three decades. In Latin America the share has been roughly 24%.

Because of the focus on basic education, in East Asia public funds for schooling are more likely to benefit low-income children who otherwise might not stay in school.

By giving priority to expanding the primary and secondary bases of the educational pyramid, East Asian governments have stimulated the demand for higher education while relying to a large extent on the private sector to satisfy that demand. In all developing regions the probability of going to university is markedly higher for secondary school graduates from high-income families than for those from low-income families. Typically, in low- and middle-income economies, public subsidies for university education are not related to need, implying that they benefit families with relatively high incomes.

Education and labor markets

East Asia's high and growing investments in human capital contributed both to accumulation, since human capital is an essential input to economic growth, and to productivity-based catching up, by permitting better mastery of technology. Indeed, between 60% and 90% of the HPAEs' output growth derives from accumulation of physical and human capital. Accumulation and catching up would not have been possible, however, without flexible labor markets to make optimal use of the well-educated workforce.

Government roles in labor markets in the successful Asian economies contrast sharply with the situation in most other developing economies. HPAE governments have generally been less vulnerable and less responsive than other developing-economy governments to organized labor's demands to legislate a minimum wage. Rather, they have focused their efforts on generating jobs, effectively boosting the demand for workers. As a result, employment levels have risen first, followed by market- and productivity-driven increases in wage levels. Because wages—or at least wage rate increases—have been downwardly flexible in response to changes in the demand for labor, adjustment to macroeconomic shocks has generally been quicker and less painful in East Asia than in other developing regions.

Making the grade

The high performance of Asian children on cognitive skills tests (of algebra, arithmetic, geometry, and measurement) reveals that the focus on primary education has paid off. In the relatively few international comparisons available from such tests, East Asian children perform better than children from other developing regions—and recently, better than children from high-income economies. In one such test of performance conducted in 20 diverse countries, Japanese students ranked first, and students from Hong Kong were in the top half of the distribution.

Vocational training

Human resources and the training to upgrade them have been important to the HPAEs' successful export drives, despite the high labor intensity of their manufactured exports. High-level skills are essential for a range of manufacturing-related activities. Moreover, adaptive innovations on the shop floor, which are responsible for a major share of productivity growth in manufacturing, demand both higher- and lower-level skills. But vocational training is rarely cost-efficient when provided in the school systems. Firms prefer to do their own training, partly because many skills are firm-specific.

Some government efforts to promote training have gone awry. According to one study, Korea's 1974 Special Law for Vocational Training, which required firms to provide six months of training in approved schemes, discouraged firm-level training; firms considered the period too long and opted to pay a fine instead. But Singapore succeeded by using training to promote the information technology sector. Singapore has achieved world leadership in information-related services through a concerted program that involved technical education institutions, training subsidies to schools and office workers, computerization of the civil service, and establishment of TradeNet, a global information network.

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DEVELOPMENT BRIEF
Number 23 The World Bank October 1993

East Asia's export push

The export-push strategy of East Asia's high-performing economies was both their most successful selective intervention and the one with the most applicability to other developing economies

Trade policies in all the Asian economies (except Hong Kong) passed through an import-substitution phase with high and variable protection of domestic import substitutes. In all cases, however, policies that strongly favored the production of import substitutes to the detriment of exports were abandoned. And governments of high-performing Asian economies (HPAEs)—Hong Kong, Indonesia, Japan, Malaysia, the Republic of Korea, Singapore, Taiwan (China), and Thailand—adopted strategic pro-export policies that established a free trade regime and offered a range of other incentives for exports.* This approach provided a mechanism by which industry moved rapidly toward international best practice, despite highly imperfect world markets for technology.

In the HPAEs that intervened selectively to promote exports, a contest based on performance in global markets played the allocative role that is normally ascribed to neutral exposure of both import-substituting and exporting industries to international competition.

Export targets provided a consistent yardstick to measure the success of market interventions. When protected sectors interfered with the exports of other sectors, the latter could seek redress and were successful. Even where domestic content rules were imposed—for example, on foreign direct investors in Taiwan (China)—they were suspended if they interfered with exports. The emphasis on export competitiveness gave businesses and bureaucrats a transparent and objective system to gauge the desirability of specific actions. Interventions could not be made arbitrarily—if they interfered with exports, they could be appealed at a higher level of government.

The economies liberalized without incurring a serious current account deficit

The more recent export-push efforts of the Southeast Asian newly industrializing economies—Indonesia, Malaysia, and Thailand—have relied less on highly specific incentives and more on gradual reductions in import protection, coupled with institutional support of exporters and a duty-free regime for inputs for exports.

Macroeconomic stability

The success of the HPAEs rests partly on what they have done and partly on what they have not done. They have not imposed general import restrictions to redress balance of payments deficits. Hong Kong, Malaysia, Singapore, Taiwan (China), and Thailand had no cause to impose such restrictions, since their current account balances never faced serious long-term deficits. Indonesia and Korea, with more troubled current accounts, might have imposed restrictions but did not.

The benefit of avoiding import restrictions is widely understood. The trade regimes of the eight HPAEs have differed widely, but each has gradually liberalized without incurring a serious current account deficit. Often trade liberalization has been part of a policy package that included devaluation, exchange rate unification, fiscal reform, and foreign aid or concessional loans to offset a temporarily deteriorating current account.

Exchange rates and exports

The close link between successful macroeconomic policies and trade liberalization can be seen in the experiences of Indonesia, Korea, and Taiwan (China). Indonesia began trade liberalization in the late 1960s. In Korea, devaluations and trade liberalization have gone hand in hand, beginning with a drastic devaluation in 1961. Taiwan (China) took its first big step in 1958 with a policy package that included a 25% devaluation, a unified exchange

*For more details, see World Bank, *The East Asian Miracle* (New York: Oxford University Press, 1993), chapter 3.

rate, export incentives, and the widespread removal of quantitative import restrictions.

The three economies used deliberately undervalued exchange rates to assist exporters. Exchange rate policy and the fiscal and monetary tools to carry it out became part of an overall export-push strategy.

One can see a fairly clear relationship between devaluations in these economies and export growth in the 1980s. All three of Indonesia's devaluations had clear effects on exports of manufactures. From 1986 to 1988 the volume of these exports rose 80% (from a fairly low base), and growth continued through 1990. The Korean real exchange rate was kept fairly stable by numerous nominal devaluations during the period of the first great Korean export boom, 1963–72. The effects on exports of real devaluation from 1982 to 1988 can also be seen clearly. Taiwan's (China) real exchange rate relative to the U.S. dollar depreciated sharply from 1980 to 1985 (the period of general dollar appreciation), and the result can be clearly seen in an export boom to the United States.

Four key elements

Each of the eight HPAEs contributed to one or more of the four elements of a successful export push: access to imports at world prices; both long- and short-term financing; market penetration; and flexibility.

Access to imports at world prices. HPAE governments have found numerous ways to grant exporters access to imports at world prices: free trade zones, export processing zones, bonded warehouses, duty drawbacks, or tariff exemptions.

Export financing. Expansion into new export activities often requires financing, both long- and short-term. Nearly every HPAE has had some program to ensure access to credit, often at subsidized prices.

Market penetration. Nearly all governments recognized the difficulty exporters face in cracking into foreign markets, and again chose various means to encourage exporters to overcome the hurdles. Some directly subsidized export activity (direct income tax incentives), some subsidized market penetration (through exporter associations), some subsidized small and medium-size exporters to offset their difficulties in market penetration, and some promoted the creation of international trading companies.

Access to export credits was key

Flexibility. Pragmatism and policy flexibility proved important because hitting the right strategy is not easy, for three reasons. The right strategy depends on the circumstances. It changes as the economy changes. And it is not always obvious.

More export expansion?

The success of the southern-tier HPAEs' export drives in the late 1970s and 1980s, along with the continued rapid growth of exports from the northern HPAEs (particularly of China's exports), indicates that such drives can succeed even when industrial-economy markets are not expanding rapidly. The more recent drives have depended on consumers in industrial economies buying goods made in Asia rather than goods made elsewhere.

Exports from the developing world remain tiny relative to the size of the major industrial economies. In 1988 developing-economy exports of manufactured goods accounted for just 3.1% of total manufactured goods consumption in the European Community, North America, and Japan. This overall figure masks the HPAEs' dominance of the export market for garments and other light manufactures.

The scope for export expansion remains substantial. Indeed, individual developing economies, particularly smaller economies currently contemplating an export-led expansion, could safely assume that demand for their products is infinitely elastic, except for saturated export markets.

Despite heightened competition, expanding global markets will remain open to developing-economy manufactured exports. One reason is the continuing effort to open markets under the auspices of the General Agreement on Tariffs and Trade. Another is the growing role of regional trading blocs.

Who provides the market if all economies push exports? The dramatic growth of trade within Asia makes it clear that export-oriented economies create markets for imports—initially for capital goods from advanced countries, but later for a broader range of goods from the Asia-Pacific region. To compete internationally, exporters must meet global standards of quality and price, for which they need access to technology, capital, and intermediate inputs at world prices. As a result, production in Asia has become more and more international, with capital goods coming from Japan, labor-intensive assembly being performed in low-wage economies such as Indonesia and Thailand, and more sophisticated operations such as design, marketing, and finance being provided from Hong Kong, Singapore, and Taiwan (China).

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DEVELOPMENT BRIEF
Number 24 The World Bank October 1993

Cooperation and contests

How did East Asia's contest-based competition work? Through public-private cooperation and sound rules and rewards

Cooperation between the government and the private sector has worked well for some HPAEs, but a few caveats apply. First, cooperative behavior may become collusion if firms act together to raise prices. Second, cooperation may inhibit competition, leading to managerial slack or a more general loss of efficiency. Third, business-government cooperation may encourage firms to seek favors from government.

How did the East Asian economies that encouraged cooperation avoid these problems? They combined cooperative behavior—including sharing of information among firms and between the private and public sectors, coordination of investment plans, and promotion of interdependent investments—with competition by firms to meet well-defined economic performance criteria.* They developed institutional structures in which firms competed for valued economic prizes—such as access to credit—in some dimensions while actively cooperating in others; in short, they created contests.

Market-based competition and contest-based competition both included prohibition of monopolies, although the number of competing firms was sometimes small. Even though Japan and Korea have tended to have high levels of concentration in their manufacturing sector, domestic competition has usually been vigorous. The Japanese government has proceeded on the assumption that competition among fewer, more evenly matched firms is preferable to having one large firm competing with many smaller rivals.

*For more details, see World Bank, *The East Asian Miracle* (New York: Oxford University Press, 1993), chapter 2.

For many small and medium-scale enterprises, export credits were their only access to the formal financial sector

Defining contests

Contest-based competition included clear, well-enforced rules and prizes for winners. The simplest and most widely used were export contests for access to credit and sometimes foreign exchange. While export credit schemes varied widely, all made credit available to firms with confirmed export orders. For many small and medium-scale enterprises, export credits were their only access to the formal financial sector. Monitoring performance was simple; firms were required to show evidence of export orders to receive credit.

In Korea and Taiwan (China), not only did export projects get easier access to funds, but firms that exported successfully had an easier time getting future loans. Because such credit was fungible and credit generally was tight, firms sometimes diverted export financing to higher-yielding nonexport investments.

A second approach used the power of government to grant licenses. The Bank of Japan, for example, induced commercial banks to compete to provide financial services in line with government policy—for example, by opening rural branches—in hopes of winning highly sought-after urban branch licenses. The contest also gave banks a strong incentive to comply with technically nonbinding administrative guidance of their lending: banks that failed to comply with guidance about the spread between deposit and lending rates were not permitted to expand their branch network.

During the 1950s Japan's Ministry of International Trade and Industry licensed capacity expansion in several key industries—mainly heavy and chemical industries. In the 1950s and 1960s, the ministry limited entry and restricted competing imports. Firms in the protected industries were required to coordinate investments to prevent excessive expansion of capacity, but they were also required to compete. Firms that received "extra profits due to regulation" (quasi-rents) were required to reinvest these profits in activities that would re-

sult in economies of scale or learning. These in turn contributed to declining real product prices and increasing market shares. Thus, firms competed for domestic market share within a framework of "orderly capacity expansion." Success was further judged by the extent to which economies of scale or learning permitted industries to expand export market shares.

The final example is Korea's heavy and chemical industries drive of 1973–79, which combined licensing of capacity, access to credit, and protection against competing imports with physical and economic targets for performance.

At the heart of the drive was the goal of changing the industrial structure toward more capital- and knowledge-intensive industries by coordinating public and private investments. Large private companies, the *chaebol*, bid on large-scale investments—for example, electronics, shipbuilding, and machinery—for which they received exclusive licenses combined with generous access to credit. The rewards were quasi-rents due to import restrictions and restrictions on entry, access to credit in a highly credit-constrained system, and government support during business cycle downturns.

These incentives have been the source of disastrous economic performance in other economies and have not been an unmitigated success in Korea. Interventions were so pervasive that bottlenecks emerged, large-scale debts were incurred, and labor-intensive industries were starved of credit. The eventual check on poor performance in Korea was the result of two performance-based rules. First, the government established a timetable for the attainment of international competitiveness in each industrial sector. Firms that failed to maintain the pace of cost reductions in line with the international norms faced both political and economic sanctions. Second, because access to credit, even at early, nonexporting stages of the development of heavy and chemical industries investments, was linked to the export performance of other products produced by the *chaebol*, efforts to maintain export competitiveness across a wide range of products were encouraged.

Exports as a yardstick

In most of the HPAE examples, using exports as a performance yardstick generated substantial economic benefits. A firm's success in the export market is a good indicator of economic efficiency—a much better indicator, in fact, than success in a domestic market. Export markets are likely to be much more competitive than domestic markets. Even if the firm's success is based on finding a niche in a foreign market, its contribution to the domestic economy is still as large as if it had succeeded by developing new production processes or otherwise boosting efficiency.

There are, of course, other advantages associated with exports. There are spillovers related both to marketing know-how and to production know-how. For instance, success in the production of intermediate goods requires producing to standards that are typically higher than those that prevail in developing economies. The contacts made when exporting may also be of value when a firm decides to enter related markets or to acquire advanced technology.

In creating contests, HPAE governments were less heavy-handed than some others that have attempted selective interventions. Though the architects of these contests made some mistakes, they generally did not force decisions on others who had their capital at risk. (The creation of the Mitsubishi Automobile Company in 1965, despite the Ministry of International Trade and Industry's guidance to refrain from entering the automobile production market, is a case in point.)

Running a contest

Contests in northeast Asian economies have succeeded partly because the prerequisites were right. Preferential access to credit and foreign exchange has been an extremely attractive reward. Rules have centered on economic performance, primarily a well-understood imperative to export. The government "referees" who designed and supervised the contests have been generally competent and fair.

Contests won't work everywhere, however, as the preponderance of unproductive subsidies in developing economies that proffer rewards but lack adequate rules and referees makes clear. Moreover, even in economies with strong government institutions, running contests becomes more difficult as firms grow and their power increases vis-à-vis that of the bureaucracy. As Japanese officials, who are now moving away from contests toward a more functional approach to incentives, have discovered, running a party game for children is one thing, and doing it for professional wrestlers is quite another.

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expand access and improve equity in education, increase internal and external efficiency, and improve the quality of secondary education.
RSB support: $40,000
Staff weeks: 10

Technology Spillovers, Agglomeration, and Foreign Direct Investment
Ann Harrison
Policy Research Department, Trade Policy Division
Ref. no. 678-29

The drop in foreign capital flows into developing countries in the 1980s renewed interest in direct foreign investment. Many developing countries loosened restrictions on foreign investment, and some offered special tax incentives and subsidies to foreign firms. This research project will look at three aspects of foreign investment to help assess whether its potential benefits for a developing economy justify offering such subsidies.

First, the research will look at the effect of direct foreign investment on wages in both domestic and foreign-owned firms in Mexico and Venezuela, using those countries' industrial censuses. It has been hypothesized that the substantial differences in wages among countries may be due in part to differences in know-how, an asset that can be transferred through foreign direct investment.

Second, the study will use firm-level data from Mexico to estimate the effect of agglomeration economies and foreign investment on export activity. To the extent that information spillovers are localized, they cause firms to locate near each other, and the resulting agglomeration attracts more firms. Spillovers of knowledge about external markets originating from foreign firms increase the likelihood that nearby firms will take advantage of export opportunities. To the extent that agglomeration economies and foreign investment promote exports, subsidizing credit and giving tax breaks may not be the most cost-effective strategy for increasing exports.

Third, again using firm-level data from Mexico, the study will estimate the source of technology spillovers. Knowledge spillovers, like all externalities, are impossible to observe, but foreign investment in an industry and the extent of agglomeration, both likely sources of spillovers, can be observed. Thus, the study will attempt to measure the link between technological change and foreign investment and industry agglomeration. Whether foreign investment generates significant technology spillovers should be an important consideration in the decision to subsidize foreign firms. And if the conditions under which foreign investment generates technology spillovers can be identified, this could provide valuable guidance for policymakers seeking to attract foreign investment.
RSB support: $25,000
Staff weeks: 5

Measuring the Impact of User Fee Increases: The Second Round of the Indonesian Resource Mobilization Study
Samuel Lieberman and Vicente Paqueo
East Asia and Pacific, Country Department III, Population and Human Resources Operations Division
Ref. no. 678-30

The economic conditions of the 1980s have made it difficult for developing countries to make major new investments in health care. Many countries are therefore searching for new ways to finance expansion and improvement of their health care systems. One proposed solution is to charge patients user fees. Proponents argue that if the revenues are used to upgrade systems and to expand rural facilities, user fees will improve access to health care, and thus a population's health status. But opponents argue that raising fees will reduce access to care, especially among the poor, and thus adversely affect health status.

This study will examine empirical evidence on the effect of user fees on the utilization of primary health care services in Indonesia. In two provinces of that country over the past year, user fees have been raised and the quality of health care services has been improved by varying degrees at selected health care facilities in experimental regions. Before these changes were made, a benchmark survey was conducted of more than 6,000 households and 1,000 medical care providers in both experimental and control regions. The same households and providers will be resurveyed about 12 to 18 months after the changes.

Using the results of the surveys, the study will investigate the effects of both the price and the quality of medical care on the utilization of preventive and curative health care. It will determine who benefits from the user fee policy. And it will investigate the effects of the prices and quality of medical care and the effects of public health interventions on health status.
RSB support: $305,518
Staff weeks: 4

Agricultural Marketing in the Former Soviet Union
Marcelo Selowsky
Europe and Central Asia, Office of the Regional Vice President
Ref. no. 678-31

In the past several years the government of nearly every new independent state of the former Soviet

Union has declared its intention to reform the agricultural and food sectors and has taken steps toward doing so. Yet little improvement has been observed in the functioning of markets or in the efficiency of food processing and distribution. Instead, there is evidence that food prices, although they have been raised in steps termed as liberalization, are still set largely by state purchase offers at the farm level.

This research project will assess the success of price liberalization reforms in the new independent states in producing market prices that are responsive to demand and supply conditions. It will identify and estimate the relative importance of factors preventing the success of price liberalization, including the continuation of monopoly conditions in distribution and retail systems. The study will estimate how much demonopolization of food marketing has occurred. And it will identify the obstacles to demonopolization and assess proposals for increasing competition and marketing efficiency.

The study will begin by developing a data set suitable for cross-country comparison, drawing from Bank sector reviews, national statistics, and information from Bank and International Monetary Fund missions. Data on market shares in food show variation by commodity and country over time. The study will use a comparison of relative price trends and geographic price differences under different market structures to estimate the potential gains from demonopolization.

RSB support: $22,500
Staff weeks: 15

The Economic Role of the State in Nations of the Former Soviet Union

Wafik Grais
Europe and Central Asia, Country Department IV, Country Operations Division 2
Ref. no. 678-32

Newly formed states will play pivotal roles in the economic transformation of the nations of the former Soviet Union. The great unknown is how the states will have to change to support markets yet avoid actions that cripple economic growth and the equitable redistribution of income and wealth. This research will examine international experience to contribute to the discussion of how new state apparatuses and functions should develop. These will vary for each country, of course, depending on its economic, social, and political characteristics.

The study will compare the roles of the state in capitalist "models," such as Germany, the Republic of Korea, and Spain. It will look at the presence of the state, as an owner and employer, in production, especially in industry and finance. It will examine the role that capital formation by government and by state enterprises has played in the growth process. The study will also look at the character and extent of state intervention and regulation in market economies through, for example, trade restrictions, labor market regulation, and price controls. And it will assess how active the state is in redirecting income flow through taxes and spending.

Second, the study will analyze the experiences of other countries more or less successfully making the transition from socialism, such as China, Hungary, and Poland. Do these experiences permit generalizations about the functions that states can shed in the transition and those that they will have to assume? What roles will state enterprises have to play in trade and production in the medium term? And what initial conditions, both economic and sociopolitical, are likely to influence the transition process?

The study will attempt to draw conclusions about models and possible paths of transition. And it will make comparisons of the role of the state in the new independent countries at different stages in the development of the private sector and the state.

RSB support: $25,000
Staff weeks: 3

World Bank and UNDP Strategies for Reducing Poverty: Comparisons in South and East Asia

Paul Isenman
South Asia, Country Department III, Office of the Director
Ref. no. 678-36

The World Bank has recommended that poverty reduction policies follow a two-pronged approach: promotion of general economic growth, and special programs to increase human capital formation and provide safety nets to vulnerable groups. The United Nations Development Programme (UNDP) also recommends a two-pronged strategy—promoting growth and meeting basic needs—but it emphasizes the second. Some observers argue that the World Bank's recommended approach represents trickle-down economic policies.

This research will address that criticism. Focusing on two or three Asian countries that have had very different experiences in the past 30 years—Pakistan, Sri Lanka, and perhaps Malaysia—the study will clarify the issues and assess whether the differences between the World Bank's policy recommendations and those of the UNDP are as big as some have claimed. It will

update and modify cross-sectional regressions to put earlier, similar exercises in proper perspective. It will look at economic growth trends over the past three decades in the two or three countries selected and at trends in social indicators over the same period. And it will assess whether the policies that these countries followed were consistent with the policies that the UNDP and the World Bank now recommend.
RSB support: $14,000
Staff weeks: 7

Stock Market Development and Financial Intermediary Growth
Asli Demirgüç-Kunt and Ross Levine
Policy Research Department, Finance and Private Sector Development Division
Ref. no. 678-37

Empirical evidence suggests that financial services—mobilizing savings, managing risk, allocating resources, and facilitating transactions—importantly influence and are importantly influenced by economic development. And financial crises, such as widespread bank failures and stock market collapse, can impede and even reverse economic advances. Thus, a sound financial sector is critical to economic growth.

This research project seeks to improve the understanding of the role of stock markets in financial sector development by constructing measures of stock market development, relating these measures to the development of financial intermediaries, and evaluating how stock market development influences firms' financing decisions. The measures of development will help in monitoring the evolution of a stock market and assessing the success of policies designed to improve it.

The project's examination of the links between the development of stock markets and the development of financial intermediaries will enrich the understanding of financial sector development and of the mechanisms through which financial services affect and are affected by economic activity. And its investigation of the relation between the development of stock markets, the behavior of intermediaries, and corporate financing decisions will contribute to the understanding of how financial sector development affects the investment and efficiency of firms.
RSB support: $91,000
Staff weeks: 50

Enterprise Training Strategies and Productivity: A Cross-National Study
Hong Tan
Private Sector Development Department
Ref. no. 678-39

There is growing awareness of the importance of human capital in economic development, and a good understanding of the role of education in building human capital. Much less is known about job training and about its effects on technology and on growth in productivity. Enterprises provide more post-school training than any other source, but there is little information about their training efforts, the macroeconomic and institutional factors that shape their incentives to provide training and the outcomes of that training, and the kinds of government incentive policies that are appropriate in different national circumstances.

This project is designed to begin filling these gaps in knowledge. It will field surveys in six countries—Colombia, Indonesia, Japan, Malaysia, Mexico, and the United States—that represent a range of levels of economic development, levels of technological development in manufacturing, educational and vocational training systems, and geographic locations. In each country the surveys will cover at least 400 to 500 manufacturing firms and 10 to 25 workers from each firm. From firms, the surveys will elicit information about their characteristics (technology, production, work organization, compensation), training strategies, and macroeconomic and policy-related factors that affect their training decisions. From workers, the surveys will collect information on schooling, work experience, seniority, training histories, and pay. The study will link these surveys to macroeconomic and policy-related data from secondary sources.

Using the survey data, the study will investigate the determinants and outcomes of different enterprise training strategies, and measure the direct and indirect effects of training on firms' productivity. It will also look at other topics relating to training, such as labor turnover, compensation policies, and technology choice. The study will compare findings across countries and relate the outcomes to within-country and cross-country differences in education and vocational training systems, regulation in product and factor markets, training policies, trade regimes, and macroeconomic conditions. This comparative analysis should yield policy lessons useful to the countries in the study as well as to others.
RSB support: $195,200
Staff weeks: 52

Research Proposals under Preparation

Informal Sector in Africa
John Todd
Southern Africa Department, Country Operations Division
Ref. no. 678-38
RSB support: $13,000

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Books

Toward Improved Accounting for the Environment
An UNSTAT–World Bank Symposium
Ernst Lutz, editor
342 pages/Order stock #12436/$31.95
As the close relation between economic development issues and environmental issues has been increasingly recognized, it has also been recognized that standard national accounts fall short in reflecting national well-being. GDP fails, for example, to take full account of the contribution of the environment to economic activity and of the impact of economic activity on the environment.

This volume reviews the work that has been done in developing a framework integrating environmental and economic accounting. It describes ways of incorporating environmental data into the system of national accounts. It presents the results of case studies in two developing countries—Mexico and Papua New Guinea—in which researchers from the World Bank and the United Nations Statistical Division (UNSTAT) applied an integrated environmental-economic accounting framework. And it reviews the experience of industrial countries with different approaches to environmental and economic accounting.

The World Bank Research Program 1993: Abstracts of Current Studies
230 pages/Order stock #12579/$11.95
This volume is a comprehensive compilation of abstracts of the World Bank's research projects in fiscal 1993. The abstracts reflect current concerns in economic and social policy from the perspective of an institution that pursues research to inform and guide the governments of its member countries and to enhance the effectiveness of its lending operations.

The abstracts describe each project's objectives, method, and findings and list associated reports and publications. An appendix to the volume lists publications and papers produced in fiscal 1993 in conjunction with current and past World Bank research projects.

Trade Liberalization: Global Economic Implications
Ian Goldin, Odin Knudsen, and Dominique van der Mensbrugghe
217 pages/Order stock #12633 (English edition, #12634 (French edition)/$43.95
This book presents the results of a four-year collaboration between the World Bank and the OECD Development Centre to analyze the potential gains from trade liberalization. Full liberalization would add more than $450 billion to global income, with more than half accruing to the most protectionist industrial countries. Partial liberalization such as envisaged in the Uruguay Round would add more than $130 billion to the incomes of the OECD countries and more than $80 billion to developing and formerly centrally planned economies.

The book examines the effect of different trade reform scenarios for African, Latin America, Asian, and former Soviet regions, providing perspectives on the consequences for them of multilateral and unilateral trade reform initiatives. It also looks at the effects of other changes in the external environment.

Journal

The articles summarized in this Journal section appear in the September issue of the World Bank Economic Review. Subscription to the Review is available without charge to readers with mailing addresses in countries that are not members of the OECD but are members of the World Bank. Other subscription requests should be directed to the World Bank Publications Sales Unit, Department PR, 1818 H Street, NW, Washington, DC 20433.

World Bank Economic Review
Volume 7, Number 3
September 1993

Determinants and Consequences of the Placement of Government Programs in Indonesia
Mark M. Pitt, Mark R. Rosenzweig, and Donna M. Gibbons
Most estimates of the consequences of public programs rely on the cross-sectional association between region-specific programs and program outcomes. Such estimates assume that the spatial distribution of programs is random. This article reports estimates of the effects of public programs on basic human capital indicators and the biases in conventional cross-sectional estimates of program effects due to nonrandom program placement. The estimates are obtained from pooled observations on human capital outcomes, socioeconomic variables, and program coverage at the *kecamatan* (subdistrict) level. The observations are based on successive sets of Indonesian cross-sectional household and administrative data during 1976–86. The determinants of the spatial allocation of programs in Indonesia in the period 1976–86 are also estimated.

The results indicate that the presence of grade and middle schools in villages has a significant positive effect on the school atten-

dance rates of teenagers. The presence of health clinics in villages also positively affects the schooling of females ages 10–18. But no evidence is found of significant effects of the presence of family planning and health programs on the survival rates of children or on cumulative fertility. The estimates suggest that the use of cross-sectional data results in substantial biases in estimates of program effects because of the evident nonrandom spatial allocation of public programs.

Further Results on the Macroeconomic Effects of AIDS: The Dualistic, Labor-Surplus Economy
John T. Cuddington
This article generalizes and extends earlier analyses of Cuddington and Cuddington-Hancock by incorporating the presence of underemployment and dual labor markets—considerations that seem particularly important when assessing the likely impact of AIDS in many African countries.

The dual-economy simulations of the economic impact of AIDS using Tanzanian data suggest the macroeconomic consequences of the epidemic are the same order of magnitude as those obtained using a single-sector, full-employment model: GDP is 15–25 percent smaller by 2010 than it would have been in the absence of AIDS, and per capita GDP is 0–10 percent smaller.

The output loss due to AIDS in the dual-economy framework is roughly similar in size to the output gain achievable through policies designed to increase labor market flexibility. The exercise is crude, but it suggests that meaningful efforts at economic reform in economies devastated by AIDS may at least ameliorate some of the negative economic effects of the epidemic, although they would certainly not offset its personal and social costs.

Household Welfare and the Pricing of Cocoa and Coffee in Côte d'Ivoire: Lessons from the Living Standards Surveys
Dwayne Benjamin and Angus Deaton
Cocoa and coffee are the most important crops in Côte d'Ivoire. Until recently, the difference between world prices and administered producer prices provided an important source of government revenue. Due to a continued decline of the world prices of both crops, the Ivorian government was forced to cut the producer prices in half. Since 40 percent of Ivorian households grow either cocoa or coffee, this cut can be expected to have had a considerable impact on the welfare level of these households. The authors use the 1985 Living Standards Measurement Survey to estimate the welfare effects of producer price changes for Ivorian households, permitting an evaluation of the probable consequences of the recent price cut. Using nonparametric econometric techniques, the authors find that while many households will suffer losses of income, the cuts will not have adverse distributional effects: although cocoa and coffee farmers are scattered throughout the income distribution, they are concentrated in the middle.

Correcting for Sampling Bias in the Measurement of Welfare and Poverty in the Côte d'Ivoire Living Standards Survey
Lionel Demery and Christiaan Grootaert
The sampling aspects of a household data set are important to analysts. The early years of the Côte d'Ivoire Living Standards Survey (CILSS) had a sampling bias that seriously affected estimates of such population statistics as household size. The bias arose from sampling procedures that overrepresented larger dwellings. Assuming that samples drawn in later years were unbiased, a correction procedure is applied that uses weights based on household size. Results from the weighted data are then compared with the unweighted findings to assess the seriousness of the bias. Estimates of household expenditure per capita in the early years of the survey are found to be significantly underestimated, resulting in an overestimation of poverty. The sampling bias also resulted in an underestimation of the upward trend in poverty during 1985–88. The CILSS has been a popular and fruitful data set for policy analysis. These findings, however, cast doubt on the robustness of earlier work. Thus, the effort to trace sampling information is particularly worthwhile for policy-oriented applied research.

Explaining the Relative Decline of Agriculture: A Supply-Side Analysis for Indonesia
Will Martin and Peter G. Warr
The relative decline of agriculture in growing economies is a central feature of economic development and a major influence on agricultural policies. The literature on the causes of this decline has focused on the relative price effects arising from demand factors, especially Engel's law, rather than on supply-side influences, such as changes in relative factor endowments and differential rates of technical change. This article develops a simple structural model of the transformation of the Indonesian economy, applying an error correction mechanism to capture the dynamics resulting from disequilibria and the costs of adjustment. The decline in agriculture's share of gross domestic product is found to be caused much less by the relative price effects typically emphasized in the literature than by capital accumulation and rapid technical change in agriculture.

Labor Markets and Adjustment in Open Asian Economies: The Republic of Korea and Malaysia
Dipak Mazumdar
This article deals with the adjustment following external shocks in two open Asian economies: the Republic of Korea and Malaysia. There were important differences in the economic structures of the two countries as well as significant differences in the way external events produced "crises" that interrupted their dynamic economic growth. Detailed analyses of economic cycles in the two decades preceding 1987–88 show that the behavior of factor markets, particularly the markets for labor and foreign exchange, helped Korea to adjust quickly to the shocks but in Malaysia actually caused the crisis to deepen.

For economies heavily dependent on exports, the unit cost of labor in dollars is of central importance as an index of the competitiveness of exports and hence of their ability to mount a sustained recovery after a difficult period. Accordingly, the heart of the analysis is the determination of the unit cost of labor and the factors affecting its change throughout the cycles. Concentration on this critical variable helps to spotlight the crucial differences in the factor markets of the two economies.

Discussion, Technical, and Related Papers

The Adaptive Economy: Adjustment Policies in Small, Low-Income Countries
EDI Development Study
Tony Killick
412 pages/Order stock #12125/$24.95
This study explores the relationship between economic adaptation and long-run development, with particular emphasis on small, low-income economies. It also examines what makes for flexibility within an economy and how policy can affect an economy's ability to adapt to conditions over which it has no control.

The study's premise is that all economies need to adapt to changing circumstances in order to achieve a reasonable pace of development. It explains the forces to which economies need to respond, the attributes that increase an economy's capacity to adjust, the difficulties of adjustment, and what policy can do to facilitate adjustment.

The study illustrates structure and flexibility within an economy and offers a guide to forming policy. It examines different policy options, among them using exchange rate fluctuations. And it explores the roles of government and markets in setting adjustment policies for industry, agriculture, and finance.

Urbanization, Agricultural Development, and Land Allocation
World Bank Discussion Paper 201
Dipasis Bhadra and Antônio Salazar P. Brandão
71 pages/Order stock #12456/$6.95
This century has seen the most explosive expansion of urban areas in history. Between 1950 and 1985 the number of people living in cities in industrial regions nearly doubled. By contrast, in the developing regions, urban populations quadrupled.

Developing countries often face problems in allocating land between rural and urban sectors. Urbanization almost inevitably involves conversion of agricultural land to nonagricultural uses. Whether or not the reasons are economically sound, governments tend to respond with interventions in land markets to stop or slow conversion of land to urban use.

This paper reviews the literature on urbanization and agricultural development and discusses the role of government in conversion. After a brief overview, it examines the links between economic development, urbanization, and the economics of city growth. The study also reviews the effects of urban development on agriculture and considers the rationale and effect of government intercession.

In reviewing the relevant literature, the study builds an analytical framework for the evaluation of land allocation policies.

The Quiet Revolutionaries: A Look at the Campaign by Agricultural Scientists to Fight Hunger
A World Bank Development Essay
David Wigg
52 pages/Order stock #12531/$6.95
Over the next 30 years yields of the major food crops must double to keep pace with global population growth. This essay tells two related stories about the fight against hunger. It looks at how agricultural researchers worldwide help feed a hungry world. And it describes how committed scientists saved the cassava root crop in Africa.

Cassava is a staple in much of the developing world. In Africa alone it helps feed more than 200 million people. The essay recounts how famine in parts of Africa was prevented through a successful campaign to defeat insects that were devastating crops.

Agricultural scientists must battle constantly to achieve food security in some parts of the world, dealing with desertification, drought, political upheaval, and government policies. The essay describes the role played in this battle by the Consultative Group on International Agricultural Research, an association of autonomous research and educational centers that coordinates agricultural research around the world.

Policy Research Working Papers

Working Papers disseminate the findings of work in progress and encourage the exchange of ideas among Bank staff and all others interested in development issues.

Interest Rates, Growth, and External Debt: The Macroeconomic Impact of Mexico's Brady Deal
Stijn Claessens, Daniel Oks, and Sweder van Wijnbergen
WPS1147 • Contact Rose Vo, room S8-042, tel. 202-473-3722.

Economic Instability and Aggregate Investment
Robert S. Pindyck and Andrés Solimano
WPS1148 • Contact Sabah Moussa, room N11-017, tel. 202-473-9019.

How Labor Markets and Imperfect Competition Affect Tariff Policy
Martin Rama
WPS1149 • Contact Dawn Ballantyne, room N10-023, tel. 202-473-7947.

Wealthier is Healthier
Lant Pritchett and Lawrence H. Summers
WPS1150 • Contact the *World Development Report* office, room T7-101, tel. 202-473-1393.

Is Growth Bad for the Environment? Pollution, Abatement, and Endogenous Growth
Charles van Marrewijk, Federick van der Ploeg, and Jos Verbeek
WPS1151 • Contact Jos Verbeek, room S9-116, tel. 202-473-3935.

Population, Health, and Nutrition: Annual Operational Review for Fiscal 1992
Denise Vaillancourt, Stacye Brown, and others
WPS1152 • Contact Otilia Nadora, room S6-065, tel. 202-473-1091.

North American Free Trade Agreement: Issues on Trade in Financial Services for Mexico
Alberto Musalem, Dimitri Vittas, and Asli Demirgüç-Kunt
WPS1153 • Contact Priscilla Infante, room N9-003, tel. 202-473-7664.

Options for Pension Reform in Tunisia
Dimitri Vittas
WPS1154 • Contact Priscilla Infante, room N9-003, tel. 202-473-7664.

The Regulation and Structure of Nonlife Insurance in the United States
Martin F. Grace and Michael M. Barth
WPS1155 • Contact Priscilla Infante, room N9-003, tel. 202-473-7664.

Tropical Timber Trade Policies: What Impact Will Eco-Labelling Have?
Panayotis N. Varangis, Carlos A. Primo Braga, and Kenji Takeuchi
WPS1156 • Contact Dawn Gustafson, room S7-044, tel. 202-473-3714.

Intertemporal and Interspatial Comparisons of Income: The Meaning of Relative Prices
Sultan Ahmad
WPS1157 • Contact Elfrida O'Reilly-Campbell, room S7-136, tel. 202-473-3707.

Working Papers are NOT available through the Publications Department. Please address requests for papers to the contact person indicated at the Bank's main address.

Population Growth, Externalities, and Poverty
Nancy Birdsall and Charles Griffin
WPS1158 • Contact Ella Hornsby, room J10-206, tel. 202-473-3707.

Stock Market Development and Financial Intermediary Growth: A Research Agenda
Asli Demirgüç-Kunt and Ross Levine
WPS1159 • Contact Paulina Sintim-Aboagye, room N9-059, tel. 202-473-8526.

Equity and Bond Flows to Asia and Latin America: The Role of Global and Country Factors
Punam Chuhan, Stijn Claessens, and Nlandy Mamingi
WPS1160 • Contact Rose Vo, room S8-042, tel. 202-473-1047.

Increasing Women's Participation in the Primary School Teaching Force and Teacher Training in Nepal
Molly Maguire Teas
WPS1161 •Contact Lydia Maningas, room D9-015, tel. 202-458-0380.

The Slovenian Labor Market in Transition: Issues and Lessons Learned
Milan Vodopivec and Samo Hribar-Milic
WPS1162 • Contact Sabah Moussa, room N11-017, tel. 202-473-9019.

Domestic Distortions and International Trade
James E. Anderson and J. Peter Neary
WPS1163 • Contact Dawn Gustafson, room S7-044, tel. 202-473-3714.

Power, Distortions, Revolt, and Reform in Agricultural Land Relations
Hans P. Binswanger, Klaus Deininger, and Gershon Feder
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Branko Milanovic
WPS1165 • Contact Rebecca Martin, room N11-043, tel. 202-473-9026.

The Behavior of Russian Firms in 1992: Evidence from a Survey
Simon Commander, Leonid Liberman, Cecilia Ugaz, and Ruslan Yemtsov
WPS1166 • Contact Olga del Cid, room M3-047, tel. 202-473-5195.

Unemployment and Labor Market Dynamics in Russia
Simon Commander, Leonid Liberman, and Ruslan Yemtsov
WPS1167 • Contact Olga del Cid, room M3-047, tel. 202-473-5195.

How Macroeconomic Projections in Policy Framework Papers for the Africa Region Compare with Outcomes
Rashid Faruqee
WPS1168 • Contact Nandita Tannan, room J5-101, tel. 202-473-4581.

Costs and Benefits of Debt and Debt Service Reduction
Eduardo Fernandez-Arias
WPS1169 • Contact Rose Vo, room S8-042, tel. 202-473-3722.

Job Search by Employed Workers: The Effects of Restrictions
Avner Bar-Ilan and Anat Levy
WPS1170 • Contact Dawn Ballantyne, room N10-023, tel. 202-473-7947.

Calendar

November

15–18—Second Biennial Training Workshop for International Telecommunications Regulators: Practical Methods and Solutions for Regulatory Issues and Problems, New York, NY [Contact: Áine NíShúilleabháin, Program Director, Columbia Institute for Tele-Information, Columbia University, 809 Uris Hall, New York, NY 10027, tel. 212-854-4222, fax 212-932-7816]

17–19—International Conference on Renewable Energy: CLEAN POWER 2001, London [Contact: Jane Chopping, Conference Organizer, RE93 Secretariat, Conferences Services, Institution of Electrical Engineers, Savoy Place, London WS2R 0BL, UK, tel. 44-71-240-1871, fax 44-71-497-3633]

18–20—Conference on Output Decline in Eastern Europe—Prospects for Recovery? Laxenburg, Austria [Contact: International Institute for Applied Systems Analysis, Conference Secretariat, A-2361 Laxenburg, Austria, tel. 43-2236-71-521, fax 43-2236-73-147]

18–20—Conference on Regional Integration, Trade, and Growth, Barcelona [Contact: Lisa Dowling, Centre for Economic Policy Research, 25-28 Old Burlington Street, London W1X 1LB, tel. 44-71-734-9117, fax 44-71-734-8760]

December

6–10—International Congress on Modeling Change in Environmental and Socioeconomic Systems, Perth, Australia [Contact: Michael McAleer, Department of Economics, University of Western Australia, Nedlands WA 6009, Australia, tel. 61-9-380-3400, fax 61-9-380-1016]

17–20—Conference on the Location of Economic Activity: New Theories and New Evidence, Vigo, Spain [Contact: Lisa Dowling, Centre for Economic Policy Research, 25-28 Old Burlington Street, London W1X 1LB, tel. 44-71-734-9117, fax 44-71-734-8760]

February 1994

1–4—International Conference on Efficient Utilization and Management of Water Resources in Africa, Khartoum [Contact: International Water Resources Association, University of Illinois, 205 North Mathews Avenue, Urbana, Illinois 61801-2352, tel. 217-333-0536, fax 217-244-6633]

March

9–10—International Conference on Water Environment 1994—Wastewater Treatment: What's It Worth? London [Contact: Carol Chin, Conference Office, Thomas Telford Services Ltd., One Great George Street, London SW1P 3AA, tel. 71-839-9803, fax 71-233-1743]

April

4–7—The Fifth Global Warming International Conference and Expo, San Francisco, California, convened by SUPCON, the World Bank, the World Resource Review, and Electric Power Research Institute [Contact: Global Warming International Center, P.O. Box 5275, Woodridge, Illinois 60517, tel. 708-910-1551, fax 708-910-1561

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